

## PATENT ABSTRACTS OF JAPAN

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(71)Applicant : DIDECO SPA

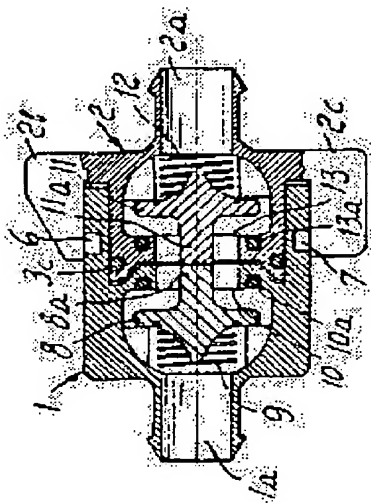
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(72)Inventor : VESCOVINI PIETRO

(30)Priority

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## (54) FLUID CUTOFF DEVICE IN FLOW PASSAGE



(57)Abstract:

**PURPOSE:** To provide a fluid cutoff device in a flow passage having the minimum capacity at low cost by moving and engaging two joints incorporating a shutter valve and provided with an inner sealing surface to connect, shut off, seal, and separate two branch streams in the fluid passage.

**CONSTITUTION:** Joints 1 and 2 are connected by the rotation action. Two projecting parts 8a and 11a come into contact mutually at a position where two joints 1, 2 approach to each other, and shutter valves 8 and 11 overcome eccentric force of springs 9 and 12 so that they are sufficiently separated from the contact of sealing surfaces 10 and 13, respectively. For this reason, a fluid can flow in both directions. By rotating the joints 1 and 2 up to a position where they are apart across an interval relatively, the shutters 8 and 11 are pressed against respective sealing surfaces 10 and 13 due to the action of a spring to cut off fluid. When the joints are further rotated, the connection of flow

passages into two branch passages can be released without causing a loss of fluid.

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(71)Applicant : IVAC CORP

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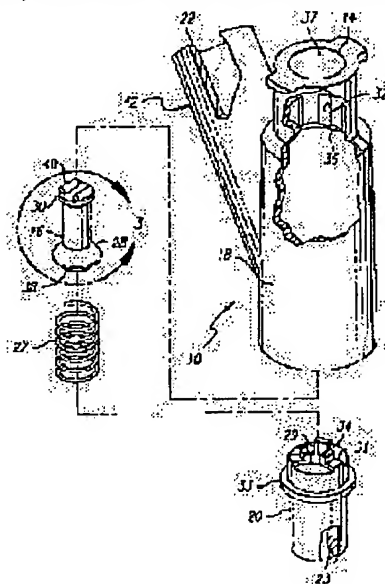
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Priority country : US

## (54) NEEDLESS INJECTION SITE EQUIPPED WITH BYPASS VALVE STRUCTURE



(57)Abstract:

**PURPOSE:** To ensure highly reliable use, in an injection site receiving a male fluid connector pipe joint to enable the injection of a fluid, by moving a plunger to a second position when the pipe joint is inserted into the first end of the injection site and allowing a fluid to bypass a seal part to pass the fluid.

**CONSTITUTION:** A fluid injection site 10 has a plunger 16 displaced when a male lure connector pipe joint is received in a female lure connection port part 14. A housing consisting of a near end side housing member 18 and a distal end side housing member 20 is provided and the plunger 16 housed in the housing member 18 is pushed toward a first end by the energizing force of a coil spring 27 to be pushed into the male lure port 14. This housing member 20 has a fluid bypass 32 provided to the distal end part of the dent 37 of the port 14 and the pipe joint is inserted by this bypass and, when the plunger 16 is moved to a second position, the fluid is allowed to flow so as to bypass the seal part.

## PATENT ABSTRACTS OF JAPAN

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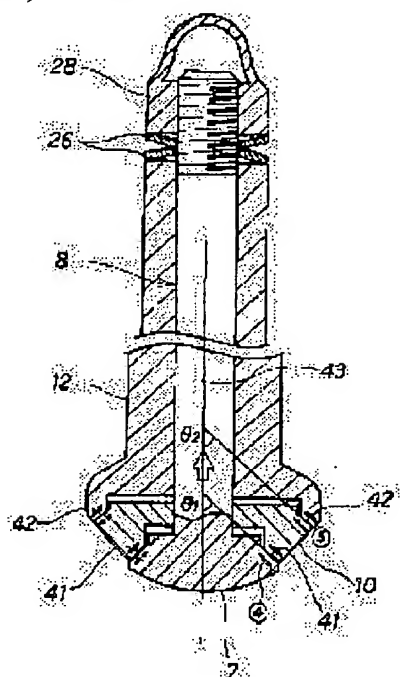
(21)Application number : 10-078105

(71)Applicant : CENTRAL KIKO:KK

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(72)Inventor : SATO HIROSHI

## (54) VALVE



## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a valve of structure so as not to generate a clearance even by changing a temperature, in the valve of use temperature in a wide range by executing steam washing or the like.

**SOLUTION:** In this valve, a contact surface 41 of a valve element 10 with a valve element receiving part 7 and a contact surface 42 of a valve element pressing piece 12 with the valve element 10 are tilted at an angel  $\theta_1$  or  $\theta_2$  relating to an axis 43 of a valve stem 8. The angel  $\theta_1$  or  $\theta_2$  is set to a 30 to 60° range, preferable to 45°. Here, by tilting the contact surfaces 41, 42 at the angle  $\theta_1$ ,  $\theta_2$ , both relative displacements in a diametric direction and in an axial direction are changed together to a slip as in an arrow mark (4), (5). Here, by always compressing the valve element 10 in the axial direction, a clearance is prevented from being generated in the contact surfaces 41, 42, accordingly apprehension accumulating a fluid around the valve element 10 is eliminated.

[Brief Description of the Drawings]

[Figure 1]

Figure 1 is an exploded view of the valve (first embodiment) of the present invention.

[Figure 2]

Figure 2 is a construction view of the valve (first embodiment) of the present invention.

[Figure 3]

Figure 3 is a view showing the tie-in of the valve element and valve stem of the present invention.

[Figure 4]

Figure 4 is an external view of the valve (first embodiment) of the present invention.

[Figure 5]

Figure 5 is a changing view of the valve (first embodiment) of the present invention.

[Figure 6]

Figure 6 is a construction view of the valve (second embodiment) of the present invention.

[Figure 7]

Figure 7 is a construction view of the valve (third embodiment) of the present invention.

[Figure 8]

Figure 8 is a working-explanatory view of Figure 7.

[Figure 9]

Figure 9 is a sectional view of the main part of a conventional disk valve.

[Figure 10]

Figure 10 is an enlarged view of the main part of Figure 9.

[Explanation of Reference Numerals]

1, 50, 60 ... valve, 2 ... valve inlet, 3 ... first case, 4 ... valve seat, 5 ... valve outlet, 6 ... second case, 7 ... valve element receiving part, 8 ... valve stem, 10 ... resin valve element (valve element), 12 ... valve element pressing piece, 26 ... disk spring, 29 ... long bolt, 35 ... valve box, 41, 42 ... contact surfaces, 43 ... axis of the valve stem,  $\theta 1$ ,  $\theta 2$  ... angle of inclination of the contact surfaces